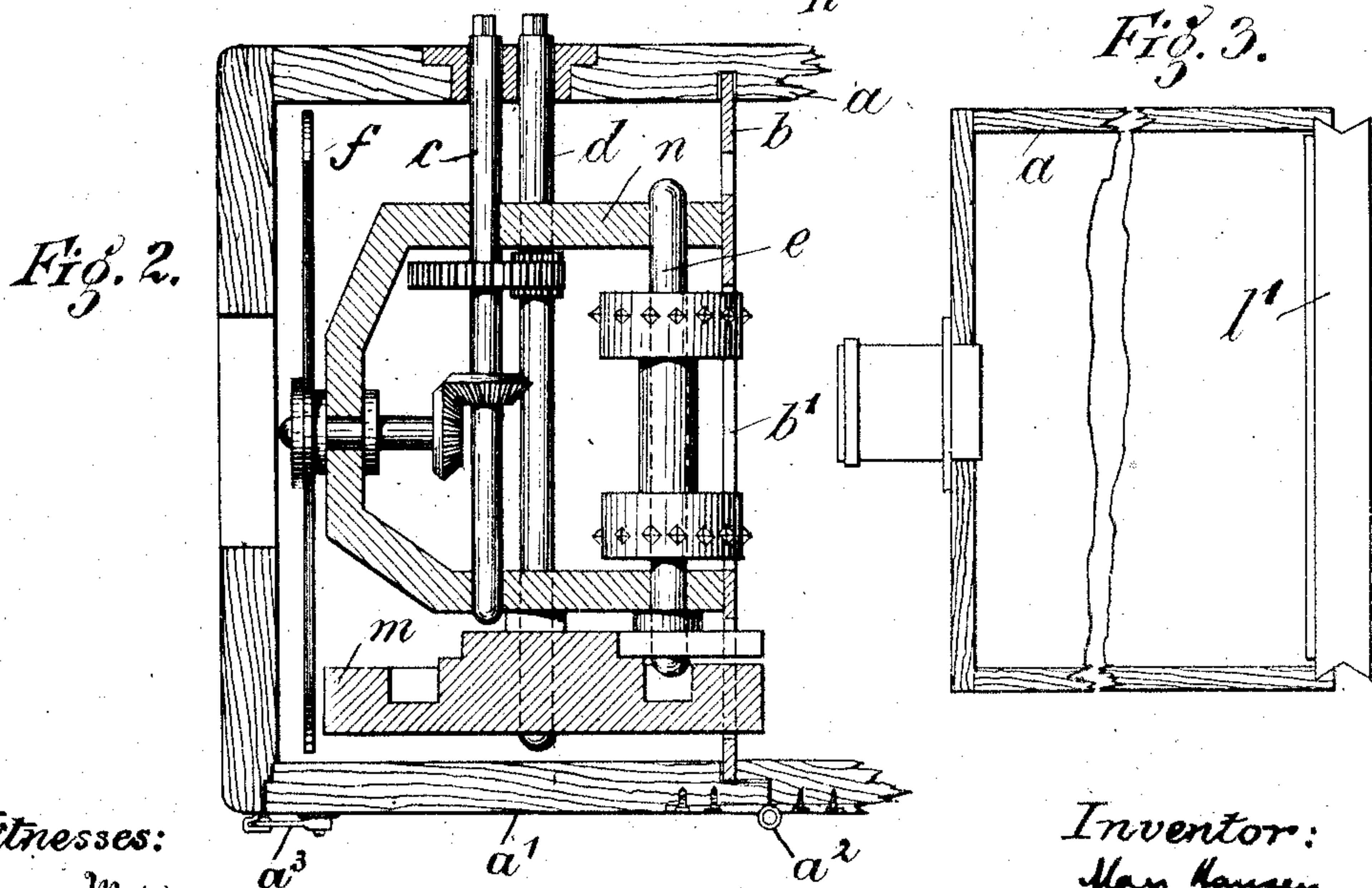
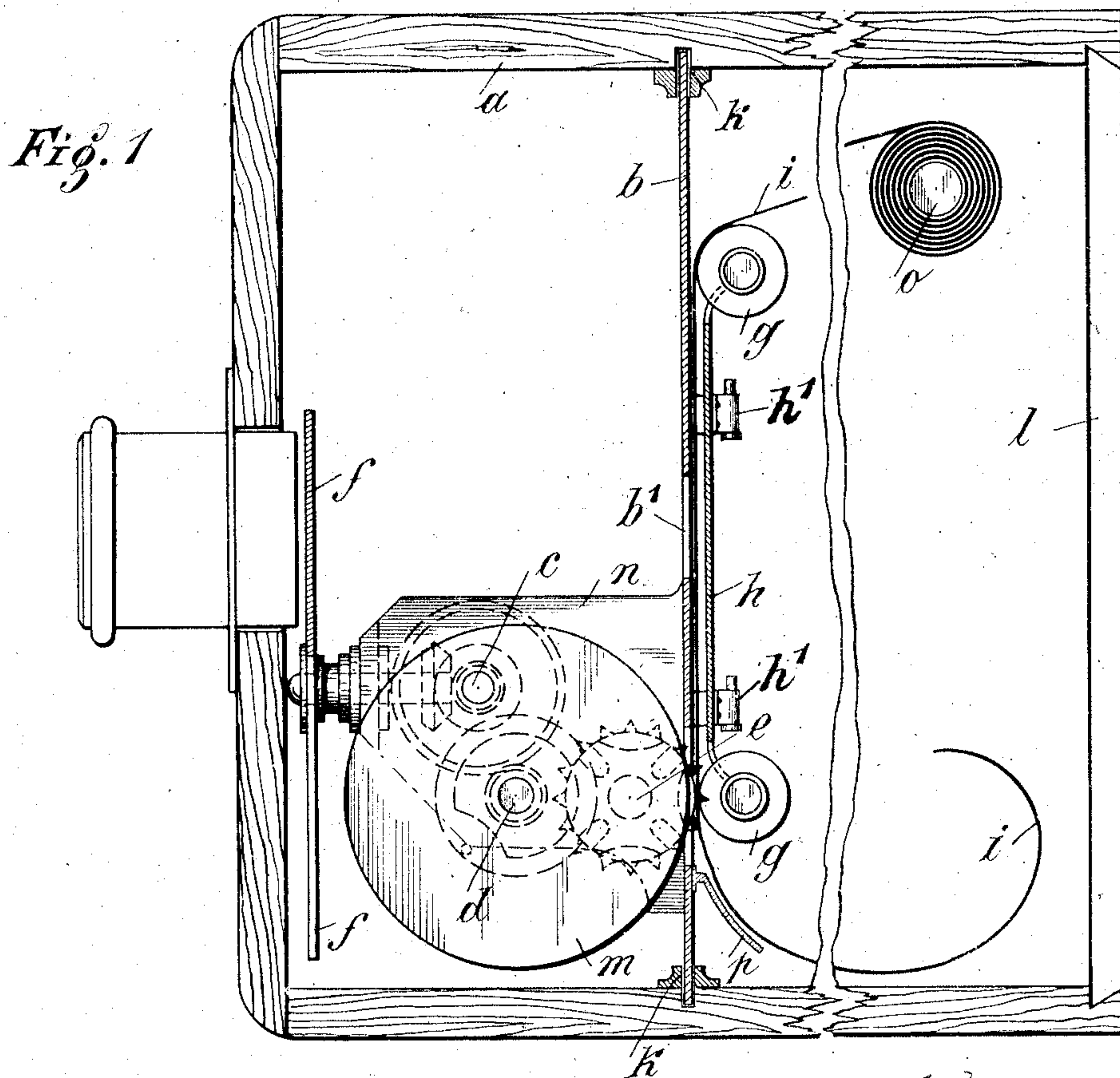


M. HANSEN.

KINEMATOGRAPHIC CAMERA.

APPLICATION FILED APR. 7, 1905.



Witnesses:
Hermann Meier.
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Inventor:
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UNITED STATES PATENT OFFICE.

MAX HANSEN, OF BERLIN, GERMANY.

KINEMATOGRAPHIC CAMERA.

No. 812,845.

Specification of Letters Patent.

Patented Feb. 20, 1906.

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To all whom it may concern:

Be it known that I, MAX HANSEN, a subject of the German Emperor, and a resident of Berlin, in the Kingdom of Prussia, in the German Empire, have invented new and useful Improvements in Kinematographic Cameras, of which the following is a specification.

My invention relates to an improved camera primarily intended for so-called "living" or "animated" photographs, and more particularly adapted for amateurs, being of exceedingly simple construction and at the same time applicable for divers uses in addition to its main purpose.

An essential feature of the invention is that the actuating mechanism with simple feed-drums does not require the assistance of any special rollers or the like for winding the film with positive motion for the exposure, the exposed film-band running unconstrained into the rear chamber of the apparatus.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section of the apparatus, a central part being broken away to save space. Fig. 2 is a horizontal section of the front portion of the same. Fig. 3 is a vertical section, drawn to a smaller scale, of the apparatus arranged as an ordinary camera, a central portion being omitted to economize space on the drawings.

The actual operating mechanism is carried by a plate *b*, perforated at *b'* to admit of exposure and having hinged to it at *h'* the film-guiding flap or plate *h*, which carries the two film-pressing rollers *g*.

p is a bent guide for assisting in conducting the film *i* in the rear chamber of the apparatus, where it can fold itself into any shape quite unconstrained. This rear chamber is sufficiently large to contain several yards of film, such as is ample for the average amateur. If longer lengths of film are to be accommodated and it is not desired to use special holders with winding mechanism, the camera-body may be extended by one or more additional receptacles being joined on behind and the wall *l* removed.

The film-feed wheels or drums *e* and the instantaneous shutter *f* are actuated by a crank applied to the squares of the axes *c* and *d*. By single rotation of the axis *c* a large number of pictures—that is to say, serial pictures—will be exposed. Each time the axis *d* is rotated; on the other hand, single pictures will be produced. As the drawings show, the rollers *g*

press constantly against the film *i*, which insures that the studs of the feed-drums *e* always retain their hold on the film. The latter, therefore, is permanently held both during the periods of exposure and arrest and can never fall back off the drum-studs or get otherwise displaced.

The plate *b* is shown as fitting at *k* into grooves in the walls of the camera-body *a*; but other suitable means may be employed to hold the plate *b* so long as they admit of its being (together with the mechanism mounted on it) readily inserted into or removed from the camera. The latter is provided with a door *a'*, hinged at *a²* and closed by a catch *a³*, to allow access to the interior *a*. When the inner detachable part is removed and the spindle *o*, which carries the film *i*, likewise withdrawn, the apparatus can be employed as an ordinary camera, a dark slide *l'* being inserted, as shown in Fig. 3, a suitable lens employed, and the holes for the axes *c* *d* closed in suitable manner.

It will be observed that the plate *b* constitutes a partition for effectively closing the rear chamber with the exposed unconstrained film-band, whereby also the film is prevented from catching in any parts of the actuating mechanism.

The apparatus may also be used for printing purposes. Furthermore, the actuating mechanism, with its plate *b*, if removed and placed before a magic lantern, may be used for projecting living pictures, the part *h* being replaced by a suitable slotted member. The so-arranged actuating mechanism may be again introduced into the body *a* and the apparatus employed for simply observing pictures without projection. The lens is in such case used as magnifying-ocular and the back *l* removed to admit light and allow the film to run out, or a slot furnished with a suitable closure may be provided in the base of the body *a* to admit of exit of the film.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a kinematographic camera, in combination, a camera-body, a perforated support in the body of the camera, actuating mechanism presenting feed-drums mounted entirely on the front of the support, film-guiding means and film-pressing means carried on the back thereof, and a film-band located on the rear side of the support and fed by the said drums and constantly forced

against them by the said pressing means and running with unconstrained motion, as differentiated from those devices provided with positive winding means, substantially as described. 5

2. In a cinematographic camera, in combination, a camera-body, a removable perforated support fitting into the camera-body, actuating mechanism mounted entirely on 10 the front side of the support, film-guiding means carried on the back thereof, and a film-band located on the rear side of the support and fed by the said actuating mechanism and running with unconstrained motion, 15 as differentiated from those devices provided with positive winding means, substantially as described.

3. In a cinematographic camera, in combination, a camera-body, a removable perforated support fitting into the camera-body, 20 actuating mechanism mounted entirely on the front side of the support, and film-guiding means carried on the back thereof, substantially as described.

25 4. In a cinematographic camera, in combination,

a camera-body, a removable perforated support fitting into the camera-body and dividing it into a front and a rear chamber, actuating mechanism mounted on the front side of the support, and film-guiding 30 means carried on the back thereof, substantially as described.

5. In combination, a camera-body having a removable back, a removable perforated support in the camera-body, actuating mechanism mounted on the front side of the support, film-guiding means carried on the back 35 thereof, and a film-band located on the rear side of the support and fed by the said actuating mechanism and running with unconstrained motion, as differentiated from 40 those devices provided with positive winding means, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses. 45

MAX HANSEN.

Witnesses:

WOLDEMAR HAUPT,
HENRY HASPER.